Support for Amendment

Support for amended claim 1 can be found on pages 2-4 of the present application. Support for "exposing said object" can be found on page 4, lines 11-16. Support for "wherein said laser object bean and said reference beam have the same wavelength" can be found on page 3, lines 31-33. Support for "detecting said interference forming a hologram" can be found on page 2, lines 30-32.

Claim 2, 5 and 8 have been amended to correct grammatical errors.

Claim 3 has been amended to correct grammatical errors. Further, the term "sample" has been amended to "object" for clarification purposes.

Claim 4 has been amended to bring it into conformity with claim 1. The elements of support for claim 1 also apply to claim 4.

Claim 6 has been amended to recite a computer readable medium.

Claim 7 has been amended to add the step of separating particles in a particle blend. Support for this limitation can be found on page 6, line 25 to page 7, line 2.

No new matter is introduced by this amendment. Claims 1-8 remain pending in the application.

REMARKS

This is in response to the non-final action Office Action mailed June 16, 2008. A two (2) month Petition For Extension of Time is filed concurrently herewith. Therefore, the time period for reply extends up to and includes November 16, 2008.

Claim Objections

Claims 1-8 are objected to on the grounds that they contain spelling and grammatical errors. These claims have been amended to correct spelling and grammatical errors. Applicants request that the objections be withdrawn.

Claim Rejections Under 35 U.S.C. § 112

Claims 7 and 8 are rejected under 35 U.S.C. § 112, second paragraph. Claims 7 and 8 have been amended to reformulate the claims as method claims. In addition, the step of separating particles in a particle blend has been added to claim 7. Applicants submit that claims 7 and 8 are definite and request that the section 112 rejections be withdrawn.

Claim Rejections Under 35 U.S.C. § 101

Claim 6 is rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claim 6 has been amended to recite a computer readable medium. Applicants request that the section 101 rejection be withdrawn.

Claim Rejections Under 35 U.S.C. § 102

Claim 1

Claims 1, 2 and 4-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,565,449 (Grego). Applicants respectfully traverse the rejections.

Claim 1 is directed to a method of determining refractive index of an object compared to a refractive index of a surrounding medium. Claim 1 recites exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength.

Grego is directed to a method and apparatus for determining refractive index profiles of an optical fiber. In Grego, a reference electrical beat signal is produced by the frequency difference or two or more laser beams after one laser beam is transmitted through the optical fiber. The refractive index of the optical fiber is calculated by a phase comparison between the two electrical beat signals. In Grego, in contrast to the claim 1 of the present application, there is no comparison of the refractive index between an object and a surrounding medium. As stated in column 2, lines 14-15 of Grego, the method is "computing the refractive-index profiles of the test object from the detected phase differences". Thus, the phase index is used only to compute refractive indices within a single object and not between an object and its surrounding medium.

Therefore, Grego does not disclose the limitation of exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength, as recited in claim 1 of the present application.

Grego also does not disclose the limitation of detecting said interference forming a hologram, as recited in claim 1 of the present application. Grego discloses a hologram 18, but the hologram is not formed by interference between an object beam and a reference beam. Figure 1 of Grego shows the reference beam 7 being applied directly to phase comparator 15. The reference beam 7 is not applied to object 6 and therefore does not interfere with the object beam F2 to form hologram 18.

In addition, it is submitted that the method of determining the refractive index of an object compared to the refractive index of the surrounding medium, as recited in claim 1 of the present application, is both novel and non-obvious.

For at least these reasons, claim 1 is allowable over Grego. Since claim 2 depends from claim 1, claim 2 is also allowable.

Claim 4

Claim 4 is directed to a device for determining refractive index of an object compared to a refractive index of a surrounding medium. Claim 4 recites exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength.

By contrast, as discussed above, Grego does not disclose the limitation of exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength, as recited in claim 4 of the present application. Also, as discussed above Grego does not disclose detecting interference between an object beam and a reference beam forming a hologram. Therefore, Grego does not disclose the limitation of a detector for detecting said interference forming a hologram. In addition, it is submitted that the method of determining the refractive index of an object compared to the refractive index of the surrounding medium, as recited in claim 4 of the present application, is both novel and non-obvious. For at least these reasons, claim 4 is allowable over Grego. Since claims 5 and 6 depend from claim 4, claims 5 and 6 are also allowable.

Claim Rejections Under 35 U.S.C. § 103

Claims 3, 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,565,449 (Grego) in view of U.S. Patent No. 5,793, 485 (Gourley). Applicants respectfully traverse the rejections.

Claim 3 depends from claim 1 and, as discussed above, claim 1 is allowable over Grego. Specifically, Grego does not disclose the claim 1 limitation of exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength and Grego does not disclose the claim 1 limitation of detecting said interference forming a hologram.

Gourley does not remedy the deficiencies of Grego. Specifically, Gourley does not disclose the claim 1 limitation of exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength and Gourley does not disclose the claim 1 limitation of detecting said interference forming a hologram. For at least these reasons, claim 3 is allowable over the combination of Grego and Gourley. Since claims 7 and 8 depend from claim 1, claims 7 and 8 are also allowable over the combination of Grego and Gourley.

Conclusion

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Additionally, the Commissioner is hereby authorized to charge any additional fees as set forth in §§ 38 CFR 1.16 to 1.18 which may be required for entry of these papers or to credit any overpayment to Deposit Account No. 13-2725.

Respectfully submitted,

23552
PATENT TRADEMARK OFFICE

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

Dated: November 17, 2008

By _____
Dennis R. Daley
Reg. No. 34,994

DRD/BR